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# Identifying Predictor Variables Of Academic Performance For Student-Athletes

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# **IDENTIFYING PREDICTOR VARIABLES OF ACADEMIC PERFORMANCE FOR STUDENT-ATHLETES**

**Honors Thesis**

**Presented in Partial Fulfillment of the Requirements  
For the Degree of Bachelor of Science in Business Administration**

In the Bertolon School of Business  
at Salem State University

By

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Commonwealth Honors Program  
Salem State University  
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## **Abstract**

Numerous studies have been conducted over the years to find out exactly what factors play a primary role in determining the academic success of student-athletes in college. The purpose of this paper is to conduct a survey on existing writings and literature pertaining to this relationship. Using secondary data from the National Collegiate Athletics Association (NCAA) and various academic journals, this paper examines the factors and conditions that affect academic performance as well as their level of impact. One would generally expect that participation in collegiate athletics would lead to better academic performance because the organized regimen of the competitive season may carry over into the student-athlete's academic life. However, research findings show that this is not always the case. Studies have shown that student-athletes participating in a high-profile sport with high time demands such as basketball and football are found to perform better academically in the off-season despite taking fewer courses during the season. Although the NCAA reported that graduation rates of Division I student-athletes had gone up considerably over the last 15 years, a closer look at the report indicates that the rates differ based on other factors. Based on the literature, factors that may impact academic performance are high school GPA, type of sport, race, gender, and university ranking on U.S. News' "Best Colleges."

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## **Introduction**

### **Purpose of Study**

Each year, the number of student-athletes competing at the collegiate level continues to increase. According to the NCAA, the number of student-athletes that have competed in NCAA championship sports has increased by 108.4% since 1982 (Schwarb, 2015). Rather than being admitted based on one's academic merits, student-athletes are often being admitted based on what they can provide to a school's athletic program. As a result, many of these student-athletes struggle with college-level coursework due to a number of variables that have been researched over time by various academic institutions. By surveying secondary sources, the goal of this study was to identify variables that have an influence on the academic performance of student-athletes in college. In total, 20 studies were reviewed and the five-predictor variables that were most frequently discussed among the studies were high school GPA, type of sport, race, gender, and university ranking.

### **Data Sources & Methodology**

Among the 20 studies examined, data for their research came primarily from individual university databases while nationwide studies relied on annual reports released by the National Collegiate Athletic Association. All but five studies provided a student-athlete sample size. In total 29,872 student-athletes were looked at, representing 1,169 institutions. There is a possibility of overlap regarding the number of institutions represented in the sample due to a few nationwide studies that did not reveal the identity of the colleges selected for their research. Thirteen studies utilized regression models in order to determine which predictor variable had the greatest influence on academic

performance. The remaining studies involved specialized surveys to be filled out by student-athletes while one held a focus group and individual interviews.

Ranging from golf and hockey to volleyball and swimming, 13 studies covered multiple sports while seven focused primarily on basketball and football due to their designation as “high-commitment” and “revenue” sports. Regarding geographic location, nationwide studies were the most common with seven, followed by the Midwest region at five. Home to a number of universities competing in the Big Ten and Big 12 conferences, the Midwest region was often selected. These two conferences compete at the highest level of collegiate athletics, especially for football and basketball, making the region an ideal location for research.

## **Literature Review**

### **High School GPA**

Looking at the first predictor variable, “high school GPA,” 14 studies researched the effect of high school academic performance on college GPA. Prior to 2016, to be eligible to compete at a Division 1 school during your first year, student-athletes must have had at least a 2.0 high school GPA. As of August 2016, the requirement has been raised to a 2.3 with the intent of better preparing athletes for college-level coursework (Hosick, 2012). This variable is commonly researched to predict the academic performance of not only student-athletes in college, but as well as the general student body, especially during the admissions process.

Half of the 14 studies found that student-athletes admitted with low high school GPAs close to the minimum, performed worse academically in college than their non-athletic peers who were admitted with similar high school GPAs. In a Division 1 study involving 325 colleges and universities, student-athletes who were not academically

prepared were found to experience stronger declines in academic performance while in-season (Scott, Paskus, Miranda, Petr, & McArdle, 2008). Unprepared for the coursework, student-athletes continue to underperform academically as they place their focus on team-related activities. Three studies found that student-athletes with higher high school GPAs academically outperformed other student-athletes with lower high school GPAs in college.

Another three studies found that standardized testing such as the SAT and ACT Composite had more influence on predicting college academic performance than high school GPA. However, these studies made it clear that standardized testing scores are not an accurate depiction of a student-athlete's overall academic performance in high school since it is typically a one-time examination. Four studies concluded that high school GPA was not a significant predictor of college academic performance.

### **Type of Sport**

With college sports becoming more popular, especially football and basketball, student-athletes are being asked to dedicate more of their time to team-related activities. The second predictor variable, type of sport, examines whether or not the type of sport a student-athlete participates in has an effect on their academic performance. The NCAA limits practice hours in-season to 20 hours a week. However, a survey conducted by the NCAA in 2006 and in 2011 revealed that athletes in football and basketball spend close to 40 hours weekly participating in athletic-related activities, which is why they are referred to as high-commitment sports. Of the 16 studies that analyzed this variable, eleven found that student-athletes participating in high-commitment sports such as



football and basketball performed academically worse than the average of the general student population.

Ten studies found that participating in a revenue sport had a negative effect on the academic performance of student-athletes. Revenue sports as their name implies, bring in revenue for the school and varies by institution. At most schools in this study, basketball and football are the main revenue sports in addition to being high-commitment sports. According to three studies, student-athletes participating in low or non-revenue sports such as swimming and tennis performed similar to non-athletes academically. Four studies concluded that the type of sport is not a significant predictor of academic performance.

## **Race**

The third predictor variable is race and whether or not it has an impact on academic performance. From 2007 to 2010, in the six major Division 1 athletic conferences, African Americans made up 64.3% and 57.1% of all basketball and football teams respectively (Harper, Williams Jr., & Blackman, 2013). However, there is an increasing gap between African American and Caucasian student-athletes in terms of graduation rates. Of the 12 studies that considered race, seven found that African American student-athletes had lower grades and graduation rates than most other racial and ethnic groups. In 2013, a study conducted at the University of Pennsylvania found that out of 76 institutions across the six major athletic conferences, 73 graduated African American male athletes at rates lower than the overall student-athlete rate (Harper et al., 2013). Between the same institutions, 97.4 % had graduation rates that were lower compared to the overall undergraduate student population. Two studies found that

Caucasian athletes performed similar to the general student population. The three remaining studies concluded that race was not a significant predictor of academic performance.

### **Gender**

Gender, the fourth most discussed predictor variable, is considered in 10 studies. Four out of the 10 studies found that female athletes often outperform their male counterparts academically and in some cases similar to non-athletes. In a study conducted at Clemson University (Maloney & McCormick, 1993), female athletes who were on the track and tennis teams had similar grades to the overall student body while volleyball and swimming had above average grades. Noted in the same study is that the lack of participation by female athletes in high-commitment or revenue sports may have possibly contributed to this academic performance gap between the two genders.

In another three studies, male athletes were found to underperform compared to non-athletes, especially those in high-commitment sports. In-season male student-athletes participating in a high-profile sport such as basketball and football performed worse academically than all other student-athlete groups (Scott et al., 2008). For nearly 40 hours a week, male athletes in these types of sports participate in team-related activities, leaving little time for academic pursuits. Three studies concluded that gender was not a significant predictor of academic performance with both males and females performing quite similar to the overall student body.

### **University Ranking**

Considered in only five studies, university ranking was the fifth most discussed predictor variable. Institutions well known for their high academic standards typically

report the highest graduation rates for student-athletes. The NCAA utilizes two measurements of academic success: Graduation Success Rate (GSR) and Federal Graduation Rate (FGR). Created by the NCAA, the Graduation Success Rate accounts for transfers unlike the Federal Graduation Rate, which counts them as failures, bringing the overall rate down. Since 2014, Stanford University has boasted a GSR of at least 98% for its entire athletic program (“NCAA GSR Excellence,” 2016). On the other hand, within the same time span, Auburn University had just reached its all-time high Graduation Success Rate of 80%, but only had a mere 66% Federal Graduation Rate as opposed to Stanford’s 95%. Researchers in these studies examined whether or not a university’s academic standing or ranking has an effect on their student-athletes’ academic performance.

Three studies found that student-athletes at selective, highly ranked schools outperformed student-athletes at academically lower-ranked schools (Richards & Aries, 1999; Aries, McCarthy, Salovey, & Banaji, 2004; Lapchick, Donovan, & Pierson, 2013). Conducted at an unidentified Ivy League university and at a highly selective liberal arts college in the northeast, Aries et al. (2004) found that student-athletes performed as expected based on their admission credentials. High-commitment athletes at these institutions were admitted with lower SAT scores compared to non-athletes, but were still held to high academic admission standards, with most graduating close to the top of their high school class. Two studies found that student-athletes underperformed compared to non-athletes at their own schools at highly selective institutions. Both studies cited the lack of academic preparation upon entering college as the potential reason.

## **Results**

### **Ranking Predictor Variables**

Based on these findings, the five-predictor variables were ranked in terms of influence with type of sport being the most influential. The most common finding among the studies discussing this variable is that high-commitment athletes perform the worst academically out of all sports groups and non-athletes due to time-demands. The second most influential predictor variable was high school GPA. The key takeaway from this variable was that student-athletes who performed poorly in high school are likely to continue that academic underperformance in college as well. Race was the third most influential variable and its most common finding was that African American male student-athletes tend to have lower graduating rates and GPAs than any other racial or ethnic groups. The fourth most influential variable was gender which saw female athletes outperform their male counterparts and similar to the general student body depending on type of sport participation. Last is university ranking due to the low amount of studies used in this survey that covered this predicted variable. Its main finding is that student-athletes at highly ranked, selective schools perform as expected based on their admission credentials despite high academic admission requirements.

### **Limitations**

Despite these rankings, it is important to note that virtually all of the studies reviewed in this survey pointed out similar limitations in their research. Whether or not these studies arrived at different conclusions, they agreed that their findings may not apply to every university. The effectiveness of the predictor variables may vary at each institution due to additional factors such as proximity of campus to home and type of

major selected. Further research on student-athletes also requires a lengthy period of time to pass before long-term data can be properly recorded and analyzed.

### **Research Recommendations**

Regarding future research recommendations, a study of the type of major chosen by student-athletes would help determine whether the time-demands of the sport are having a negative effect on performance or is it the lack of academic preparation coming from high school. Student-athletes typically shy away from time-consuming majors such as those in the medical field. Among the football teams participating in the Power 5 conferences, business was the most popular major selected by student-athletes in 2015 before being overtaken by communications in 2016 (Ferguson, 2016). Depending on the institution, these two majors do not require as much time-commitment compared to majors such as nursing or biology.

Another topic that was briefly talked about in each study was self-perception as well as faculty perception. Student-athletes reported having difficulty being taken serious by professors and are seen as athletes before students (Singer, 2008). A study of a university's faculty perception and academic environment would aid in determining if a university places more importance on athletics or academics for their student-athletes. This could explain why student-athletes at institutions with high academic standards such as Stanford excel both in academics and athletics.

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